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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/651,696	08/30/2000	Peter Ledel Gammel	18-47-1-57	2486

7590 07/03/2003

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EXAMINER

BERCK, KENNETH A

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 07/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/651,696

Applicant(s)

GAMMEL ET AL.

Examiner

Ken A Berck

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 8-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Zhang et al. (US 5536988).

Regarding claim 8, Zhang discloses (figs 1-2) a device with a substrate (12), a cathode (22) attached to the substrate comprising electron emitters, a grid (282) attached to the device substrate, an output structure with the cathode surface and the grid surface substantially parallel and the cathode or the grid are attached to the device substrate by one or more flexural members (column 5, lines 54-67).

Regarding claim 9, Zhang discloses (column 5, lines 54-67) one or more flexural members attach the cathode and the grid to the substrate.

Regarding claim 10, Zhang discloses (fig 8) the cathode and grid surfaces are substantially perpendicular to the device substrate surface.

Regarding claim 11, Zhang discloses (figs 1 and 5) the cathode and grid are held in the substantially perpendicular position by locking mechanisms attached to the device substrate by one or more flexural members.

Regarding claim 12, Zhang discloses the anode surface is substantially parallel to the cathode surface and the grid surface.

Regarding claim 13, Zhang discloses (fig 1) the anode is attached to the device substrate by one or more flexural members.

Regarding claim 14, Zhang discloses one or more additional grids attached to the device substrate by one or more flexural members.

Regarding claim 15, Zhang discloses (column 8, lines 55-67) the cathode comprises nanotube emitters.

Regarding claim 16, Zhang discloses (column 8, lines 55-67) the surface of the cathode and grid are 10^6 um^2 or less.

Regarding claim 17, Zhang discloses (column 8, lines 55-67) the spacing between the cathode and grid is less than 50 um.

Regarding claim 18, Zhang discloses the device is a triode device (fig 1).

Regarding claim 19, Zhang discloses a plurality of vacuum microelectromechanical devices.

Regarding claim 20, Zhang discloses (fig 1) at least a portion of the plurality of devices are interconnected to provide an integrated electronic circuit.

Contact Information

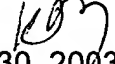
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken A Berck whose telephone number is (703)305-7984. The examiner can normally be reached on Mon-Fri 8:30-4:30.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on (703)305-4794. The fax phone numbers

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for the organization where this application or proceeding is assigned are (703)308-7382 for regular communications and (703)308-7382 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

kab 
June 30, 2003


V. S. PATR
PRIMARY EXAMINER
ART UNIT 2879